

CLAIMS

What is claimed is:

- 1 1. A communications back-channel, for coordinating routing decisions, the
2 communications back channel comprising:
3 a plurality of networking devices;
4 a plurality of routing intelligence units, wherein each of the plurality of the
5 plurality of routing intelligence units includes software for controlling a distinct subset of
6 the plurality of networking devices, each of the plurality of routing intelligence units
7 further including:
8 one or more processes for controlling the distinct subset of networking
9 devices; and
10 one or more coordination processes for exchanging routing parameters with
11 the plurality of routing intelligence units.
- 1 2. The communications back-channel of claim 1, wherein the one or more processes
2 for controlling the distinct subset of networking devices are Border Gateway Protocol
3 (BGP) sessions.
- 1 3. The communications back-channel of claim 2, wherein each of the routing
2 intelligence units is a route-reflector client.
- 1 4. The communications back-channel of claim 3, wherein each of the distinct subset
2 of networking devices is a route reflector to the route reflector client.

1 5. The communications back-channel of claim 1, wherein the one or more
2 coordination process in each of the routing intelligence units includes BGP sessions.

1 6. The communications back-channel of claim 5, wherein the BGP sessions in the one
2 or more coordination processes of each of the routing intelligence units includes:

3 at least one BGP process; and

4 at least one BGP stack, such that the at least one BGP stack exchanges
5 routing parameters between the routing intelligence unit and the at least one BGP process,
6 and the at least one BGP process exchanges routing parameters with the plurality of
7 routing intelligence units.

1 7. The communications back-channel of claim 6, wherein the at least one BGP stack
2 is a route reflector client, and the at least one BGP process is a route reflector.

1 8. The communications back-channel of claim 6, wherein the routing parameters
2 include local path performance characteristics.

1 9. The communications back-channel of claim 6, wherein the routing parameters
2 include performance scores for routes.

1 10. The communications back-channel of claim 9, wherein the performance scores are
2 exchanged via a Local Preference field.

1 11. The communications back-channel of claim 1, further comprising:

2 a plurality of communication links directly coupling the plurality of routing
3 intelligence units, wherein the plurality of communication links are dedicated exclusively
4 for exchanging routing parameters between the plurality of routing intelligence units.

1 12. The communications back-channel of claim 11, wherein the plurality of
2 communication links are at least partially comprised of physical links between the
3 plurality of routing intelligence units.

1 13. The communications back-channel of claim 11, wherein the plurality of
2 communication links are at least partially comprised of logical links between the plurality
3 of routing intelligence units.

1 14. A method of exchanging routing parameters amongst a plurality of decision
2 makers, each decision maker controlling a distinct subset of a plurality of routers, wherein
3 the plurality of decision makers are in communication via a dedicated mesh, the method
4 comprising:

5 asserting a first plurality of preferred routes for a first plurality of prefixes to
6 the subset of routers; and

7 concurrent with the asserting the first plurality of preferred routes, sending a
8 plurality of local performance scores for the first plurality of routes to the plurality of
9 decision makers via the dedicated mesh.

1 15. The method of claim 14, further comprising:

2 receiving a second plurality of routes for a second plurality of prefixes via the
3 dedicated mesh.

1 16. The method of claim 15, further comprising:

2 receiving a plurality of performance scores for the second plurality of routes.

1 17. The method of claim 16, wherein the plurality of performance scores are included
2 in one or more Local Preferences fields in a BGP feed.

1 18. The method of claim 16, further comprising:

2 applying penalties to each of the plurality of performance scores.

1 19. The method of claim 14, wherein the asserting the first plurality of preferred
2 routes is performed via a BGP feed to the subset of routers.

1 20. The method of claim 14, wherein the plurality of local performance scores are sent
2 via a BGP feed to the dedicated mesh.

1 21. The method of claim 14, wherein the dedicated mesh is at least partially
2 comprised of physical links between the plurality of decision makers.

1 22. The method of claim 14, wherein the dedicated mesh is at least partially
2 comprised of logical links between the plurality of decision makers.